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PTO/SB/05 (08-00)

Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. Applicant claims small entity status.
See 37 CFR 1.27.
3. Specification [Total Pages]
(preferred arrangement set forth below)
 - Descriptive title of the invention
 - Cross Reference to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to sequence listing, a table, or a computer program listing appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings *(if filed)*
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
4. Drawing(s) (35 U.S.C. 113) [Total Sheets]
5. Oath or Declaration [Total Pages]
 - a. Newly executed (original or copy)
Copy from a prior application (37 CFR 1.63 (d))
(for continuation/divisional with Box 17 completed)
 - i. **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. Application Data Sheet. See 37 CFR 1.76

17. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

 Continuation Divisional Continuation-in-part (CIP)

of prior application No. _____ / _____

Prior application information

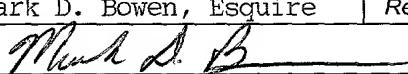
Examiner _____

Group / Art Unit: _____

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.**18. CORRESPONDENCE ADDRESS** Customer Number or Bar Code Label

(Insert Customer No. or Attach bar code label here.)

or Correspondence address below

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Signature			Date 11/14/00

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09/7/2008
11/15/00

PATENT APPLICATION: DOOR HINGE PIN REMOVAL TOOL
SERIAL NO.: T.B.D.
FILE NO.: 1238.A101

CERTIFICATE OF EXPRESS MAIL

I HEREBY CERTIFY that the following correspondence: ***UTILITY PATENT APPLICATION INCLLUDING 9 PAGES OF SPECIFICATION AND 1 SHEET OF INFORMAL DRAWINGS; EXECUTED DECLARATION AND POWER OF ATTORNEY; EXECUTED VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS; CHECK NO. 348 IN THE AMOUNT OF \$355.00 TO COVER THE FILING FEE; TRANSMITTAL LETTER; RETURN POSTCARD FOR CONFIRMATION OF RECEIPT and IDS FORM PTO-1449*** is being deposited with the United States Postal Service as Express Mail No. **EK166377784US**, addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on this 15 th day of November, 2000.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.



Mark D. Bowen
Date: 11/15/00

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DOOR HINGE PIN REMOVAL TOOL

CROSS REFERENCE TO RELATED APPLICATIONS

5

N/A

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

10

N/A

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20

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to hand tools, and more particularly to a hand tool adapted for use in removing the pintle from a door hinge when the tool is placed against the door hinge pintle and struck with a blunt object.

2. Description of the Background Art

Several hand tools designed for use in removing a pintle from a door hinge are known in the background art. For instance, U.S. Patent No. 2,089,902, issued to Kulp, discloses a valve driver for use in removing automobile valves without damage. U.S. Patent No. 3,602,969, issued to Provost, discloses a hinge pintle removing tool, primarily designed for carpenters, adapted to loosen and remove a headed pintle from a door hinge. The device comprises a one-

piece tool with a head, with a first portion adapted for prying and loosening the headed end of the pintle, and a second portion for engaging the pintle head, enabling the user to remove the pintle using a hammer. U.S. Patent No. 3,689,977, issued to Crabbe, discloses a device for removing a hinge pin, particularly from a plate type hinge. The tool includes an end portion with a blade to assist in loosening the pin, and a shoulder portion to assist in removing the pin. The most similar patent to the present invention is U.S. Patent No. 4,183,133, issued to Abbott. It discloses a hand tool adapted to remove a pintle from a door hinge, comprising of a curved hollow guide or shield within which is fixed a push rod adapted to force the pintle out of a door hinge when the tool is placed against the door hinge pintle and struck with a hammer. This tool, however, does not include a specially adapted end to assist in loosening the hinge pin, nor does it include a means for aiding in alignment of the tool when in use. U.S. Patent No. 4,188,701, issued to Ludwig, discloses a tool having a wedge-shaped head mounted on a shank equipped with a support projection to receive the hinge. The head includes an impact surface for hammering the wedge portion between the hinge and the head of the hinge pin. U.S. Patent No. 4,432,125, issued to Monteleone, et al., discloses a hinge pin removal tool mainly for removing automobile hinges with the aid of a pneumatic impact tool. U.S. Patent No. 5,099,562, issued to Loughran discloses a hinge pin and tip removal tool having first and second portions of differing diameters. U.S. Patent No. 5,438,743, issued to Simington, et al., discloses an apparatus for extracting and installing automobile hinge pins. U.S. Patent No. 5,875,535, issued to Canoy,

discloses a hinge pin removal tool for removing a head-capped pin from a knuckled door hinge.

The background art devices, however, are burdened with a number of significant disadvantages that have limited acceptance and use of said devices.

- 5 One disadvantage present is that none of the devices allow the user of the hand tool to a line of site to aid in aligning the tool with the door hinge pintle when in use. As a result of said disadvantage, the user may require several attempts before successfully accomplishing the task of removing the door hinge pintle. This unnecessary burden can be time-consuming and frustrating and effectively
- 10 rely on trial and error. Another disadvantage present in the devices of the background art is that said devices lack a means for self-alignment of the hand tool. Thus, there exists a need for such a hinge pin removal tool encompassing all of these elements.

15

BRIEF SUMMARY OF THE INVENTION

The present invention provides an improved door hinge pin removal tool that overcomes the disadvantages present in the devices of the background art. A door hinge removal tool according to the present invention includes a base having a projecting hollow barrel that substantially encloses a push rod that functions upon use to thrust a previously installed door hinge pintle from the hinge structure. The barrel defines a longitudinal slot that functions to allow the device to slide over the installed hinge and pin assembly, and a window that functions to allow the user to visually align the push rod with the bottom of the

hinge pin. The base of the device includes a notch for use with hinges wherein the pintle is capped with a plug for removing the plug.

Accordingly, it is a primary object of the instant invention to provide an improved door hinge pin removal tool.

5 Still another object of the present invention is to provide a self-aligning door hinge pin removal tool.

Yet another object of the present invention is to provide a door hinge removal tool that provides the user with a visual alignment means.

10 Still another object of the present invention is to provide a door hinge removal tool that includes a notch for removing hinge pin caps.

Yet another object of the present invention is to provide a slotted barrel having a tapered end portion that facilitates the slidable engagement of the tool with the door hinge structure.

15 In accordance with these and other objects, which will become apparent hereinafter, the instant invention will now be described with particular reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

FIG. 1 is a side view of a door hinge removal tool according to the present
20 invention;

FIG. 2 is a front view thereof;

FIG. 3 is a rear view thereof.

DETAILED DESCRIPTION OF THE INVENTION

With reference to the drawings, FIGS. 1-3 depict a preferred embodiment of a door hinge pin removal tool according to the present invention, generally referenced as 10. As best seen in FIG. 1, door hinge removal tool 10 includes a base 20 having a projecting push rod 22 and a sturdy circular barrel 30 connected to the base. Base 20 preferably defines a generally circular cross-section and defines a beveled portion 24 and a notch 26. Beveled portion 24 and notch 26 cooperate to form a structure suitable for prying off a cap as may be found on the end of a door hinge pin prior to the actual hinge pin removal.

As With reference to FIG. 2, door hinge pin removal tool 10, and particularly barrel 30 defines a window 32 specifically located on the barrel as to reveal the end portion of push rod 22. Window 32 functions to allow the user of door hinge pin removal tool to view the axial alignment of push rod 22 with a particular door hinge pin. Accordingly, window 32 increases the hinge pin removal efficiency over devices of the background art by facilitating removal on the first attempt by avoiding misalignment of the tool and particularly misalignment wherein the end of push rod 22 contacts the hinge rather than the hinge pin.

As best seen in FIG. 3, barrel 30 further defines a longitudinal slot 34 adapted to receive the door hinge structure when the tool is slidably positioned in an operative position on a door hinge. Slot 34 preferably includes a tapered end portion 36 for facilitating the engagement of the tool with a door hinge as best seen in FIGS. 1 and 3.

The instant invention has been shown and described herein in what is considered to be the most practical and preferred embodiment. It is recognized, however, that departures may be made therefrom within the scope of the invention and that obvious structural and/or functional modifications will occur to a person skilled in the art.

CLAIMS

What I claim is:

- 5 1. A tool for use in removing door hinge pins, said tool comprising:
an elongate barrel having a first end and a second end, said barrel
defining a slot originating at said first end and longitudinally extending toward
said second end;
a sturdy base fixed to said barrel second end;
10 a push rod having a first end connected to said base and projecting axially
within said barrel;
whereby a door hinge pin may be removed by slidably positioning the tool
on a door hinge such that said push rod is axially aligned with the hinge pin and
striking said base with a blunt object thereby causing said push rod to at least
15 partially eject the pin from the door hinge.
2. A tool according to claim 1, wherein said barrel further defines a
window for allowing a user to view alignment of said push rod with the pin of a
door hinge.
- 20 3. A tool according to claim 1, wherein said slotted aperture is tapered
proximate said barrel first end.

4. A tool according to claim 1, wherein said base defines a notch for
use in removing caps from hinge pins.

5. A tool for use in removing door hinge pins, said tool comprising:
an elongate barrel having a first end and a second end, said barrel
defining a slot originating at said first end and longitudinally extending toward
said second end, said barrel further defining a window;

a sturdy base fixed to said barrel second end;

10 a push rod having a first end connected to said base, a mid portion
projecting axially within said barrel, said push rod terminating at a second end;

said window longitudinally aligned with said push rod second end;

15 whereby a door hinge pin may be removed by slidably positioning the tool
on a door hinge such that said push rod is axially aligned with the hinge pin and
striking said base with a blunt object thereby causing said push rod to at least
partially eject the pin from the door hinge.

6. A tool according to claim 5, wherein said base defines a notch for
use in removing caps from hinge pins.

20 7. A tool according to claim 5, wherein said barrel first end defines a
tapered portion forming the mouth of said notch.

ABSTRACT OF THE DISCLOSURE

A hand tool for use in removing a pintle from a door hinge, comprising a rigid, barrel with a slotted aperture enclosing a push rod affixed to a base
5 adapted to thrust the pintle out of a door hinge when the tool is placed against the door hinge pintle and struck with a blunt object. A viewing window is defined by the barrel for providing proper visual alignment and placement of the push rod against the door hinge pintle. The base includes a notch for use in removing hinge pintle caps.

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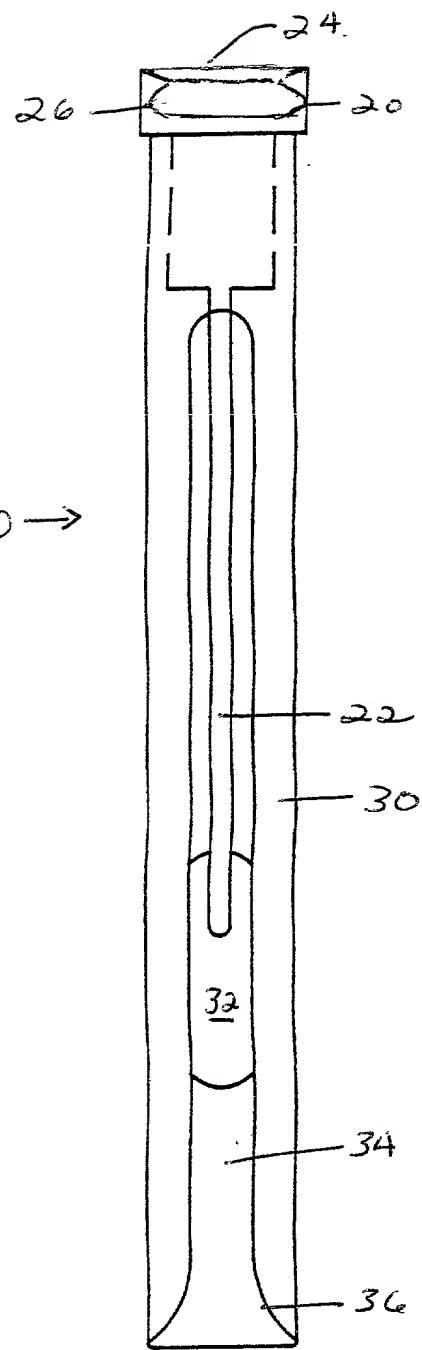
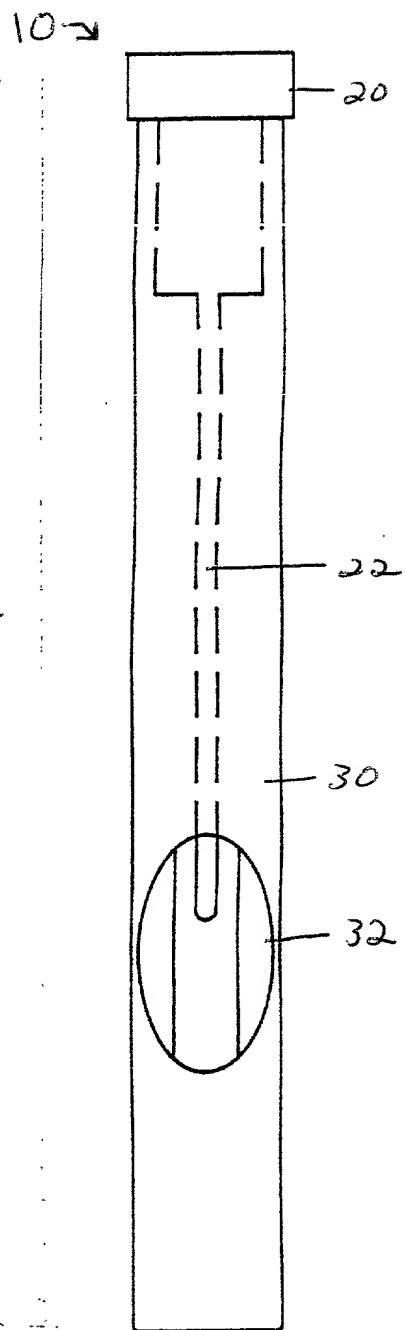
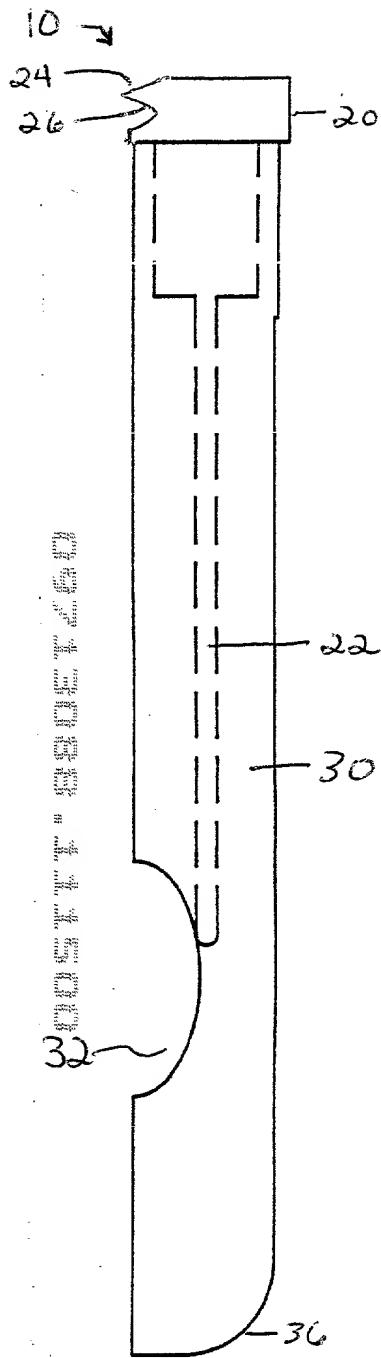


FIG 1

FIG 2

FIG 3

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PTO/SB/01 (10-00)

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**DECLARATION FOR UTILITY OR
DESIGN
PATENT APPLICATION
(37 CFR 1.63)**

Declaration
Submitted
with Initial
Filing

OR

Declaration
Submitted after Initial
Filing (surcharge
(37 CFR 1.16 (e))
required)

Attorney Docket Number	1238.A101
First Named Inventor	Loy David Sullivan
COMPLETE IF KNOWN	
Application Number	/
Filing Date	Herewith
Group Art Unit	
Examiner Name	

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

DOOR HINGE PIN REMOVAL TOOL

(Title of the Invention)

the specification of which

is attached hereto

OR

was filed on (MM/DD/YYYY)

as United States Application Number or PCT International

(if applicable).

Application Number

and was amended on (MM/DD/YYYY)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?
			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 2]

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DECLARATION — Utility or Design Patent Application

Direct all correspondence to: Customer Number _____ OR Correspondence address below

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Address **Bowen & Lhota, P.A.**

Address **1000 West McNab Road**

City Pompano Beach	State FL	ZIP 33069
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Country USA	Telephone 954-785-5775	Fax 954-785-7749
--------------------	-------------------------------	-------------------------

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR :	<input type="checkbox"/> A petition has been filed for this unsigned inventor
---	---

Given Name LOY DAVID (first and middle [if any])	Family Name Sullivan or Surname
--	---

Inventor's Signature 	Date Nov 3, 2000
--	-------------------------

Residence: City LakeWorth	State FL	Country USA	Citizenship USA
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City Lake Worth	State FL	ZIP 33463	Country USA
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NAME OF SECOND INVENTOR:	<input type="checkbox"/> A petition has been filed for this unsigned inventor
---------------------------------	---

Given Name (first and middle [if any])	Family Name or Surname
---	---------------------------

Inventor's Signature	Date
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Residence: City	State	Country	Citizenship
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Mailing Address

Mailing Address

City	State	ZIP	Country
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Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Loy David Sullivan
App. No. : To be assigned
Filed : Herewith
For : DOOR HINGE PIN REMOVAL TOOL
Examiner : To be assigned
Art Unit :
Our File No. : 1238.A101

**POWER OF ATTORNEY BY INVENTOR
(AND REVOCATION OF PRIOR POWERS)**

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

As inventor, I hereby revoke all powers of attorney previously given and I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith along with any and all foreign applications filed and foreign patents issued therefrom: Mark D. Bowen, Reg. No.39,914 and David P. Lhota, Reg. No.39,275.

Please address all correspondence to Mark D. Bowen, Esq., Bowen & Lhota, P.A., 1000 West McNab Road, Pompano Beach, Florida 33069.

Respectfully submitted,

Date: Nov. 3, 2000

By: Loy David Sullivan
Loy David Sullivan